



United States
Department of
Agriculture

Forest
Service

June 2015



Environmental Assessment

SPECIAL USE PERMIT ISSUANCE for PHASE 2 of the FERGUSON SLIDE PERMANENT RESTORATION PROJECT: Rockshed Construction and Detour Removal

**Bass Lake Ranger District, Sierra National Forest
Mariposa County, California**

On State Route 140 from 8 miles east of Briceburg to 7.6 miles west of El Portal in
Mariposa County, California



For Information Contact: Judi Tapia

1600 Tollhouse Road, Clovis California
559-297-0706 extension 4938

jetapia@fs.fed.us

http://www.fs.usda.gov/wps/portal/fsinternet!/ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gDfxMDT8MwRydLA1cj72BTUwMTAwjQL8h2VAQA1NXCVQ!!/?ss=110515&navtype=BROWSEBYSUBJECT&cid=FSE_003759&navid=1301100000000000&pnavid=1300000000000000&position=BROWSEBYSUBJECT&ttype=projects&pname=Sierra%20National%20Forest-%20Projects

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INTRODUCTION

Background

In April 2006, a major landslide occurred on Highway 140 (SR 140) along the Merced Wild and Scenic River (WSR), within the boundary of the Sierra National Forest (SNF), and obstructed access to Yosemite National Park. The rockslide is located on the Merced WSR between El Portal and Briceburg, California. Unusually heavy rainfall in March and April of 2006 destabilized a steep hillside above the river and rockslide activity began in the area on April 29, 2006. On May 28, a major landslide covered approximately 183 meters (600 feet) of the highway. As a result, SR 140 was closed to traffic from 5.1 kilometers (3.2 miles) east of Briceburg to approximately 9.7 kilometers (6.0 miles) west of El Portal.

In response to the emergency situation, and in order to maintain traffic flow between Mariposa, California, and Yosemite National Park, Caltrans constructed two temporary bridges along SR 140 creating a detour around the rockslide. The temporary bridge construction activities were analyzed in two Categorical Exclusions (2006 and 2008) with SNF review and comment. In conjunction with the CEs, the SNF issued a WSRA Section 7(a) determination and found that the two temporary bridges across the Merced River, designed to facilitate single-lane traffic on SR 140, would not have permanent direct or adverse effects to the WSR based on their temporary use and their subsequent removal upon construction of a permanent solution. However, this suite of environmental analysis did not address the need to construct a permanent solution to the blocked highway corridor.

In November 2010, Caltrans published, The Ferguson Slide Permanent Restoration Project Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR), which analyzes several alternatives to restore permanent access along State Highway 140. The SNF provided comments in January 2011 concluding that the analysis in the 2010 DEIS/DEIR did not include enough information from which the SNF could make its determination and included a detailed list of the additional information needed. In February 2011, Caltrans, the SNF, and several other interested government agencies met to review the project and discuss the additional actions needed to complete the environmental analysis, conduct necessary studies, and identify appropriate alternatives for a permanent solution. Between January 2011 and August 2012, the SNF worked closely with Caltrans to obtain the additional information and analysis needed to make a WSRA Section 7(a) determination on the alternatives outlined in the 2010 DEIS/DEIR. An Advanced Summary of Effects to the Merced River Values was prepared responsive to the 2010 DEIS/DEIR and signed by the Regional Forester on January 28 2014.

Within the limits of the proposed project and prior to the Ferguson rockslide, State Route 140 was a two-lane, undivided highway. Following the rockslide and the completion of a temporary detour, State Route 140 now bridges across the Merced River, follows an old railroad grade used as a hiking trail (Merced River Canyon Trail/Incline Road), and then bridges back across the Merced River to bypass the rockslide, as a one-lane road. This bypass route provides for one-directional traffic that is controlled by traffic signals. The Merced

River flows alongside the highway within the project area, as it does throughout the Merced River Canyon. There are no other proposed or ongoing projects within the project vicinity.

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the California Department of Transportation (Caltrans) under its assumption of responsibility pursuant to 23 USC 327. Caltrans, as the federal lead agency for this undertaking, has selected Alternative R for the Ferguson Slide Permanent Restoration Project. Caltrans' Final Environmental Impact Statement (Final EIS) for the subject project, dated January 28, 2014, identified this alternative as the preferred alternative (Final EIS, Section 2.1.4, pages 25-26).

The Final EIS was prepared pursuant to the National Environmental Policy Act (NEPA). The Final EIS considered potential construction and operational impacts to the natural and human environment that would result from a No Build alternative and two build alternatives. Caltrans based its decision on the Final EIS and supporting studies, as well as comments received from the public and agencies. With the adoption of the Record of Decision (ROD), Caltrans expects to proceed with the project.

In response to Caltrans' decision to construct the Rockshed/Tunnel, the Sierra NF is required to issue a Special Use Permit (SUP) for the construction activities on National Forest System lands within and adjacent to the corridor of State Route 140. The Sierra NF decided that the construction activities represented two distinct phases of construction, and therefore, required two separate SUPs. Phase 1 construction activities are focused on the removal of rock talus debris currently blocking the highway and completing geotechnical testing of the slide and underlying bedrock. Phase 2 construction focuses on the construction of the Rockshed/Tunnel feature itself and removal of the temporary detour.

The Sierra National Forest (NF) issued a special use permit for phase 1 on September 11, 2014 based on a decision memo titled California Department of Transportation District 10 Special Use Permit for Phase 1: Ferguson Slide Highway 140 Permanent Restoration Project. Phase 1, began implementation in March of 2015. Phase 1 began with installation of a temporary protective cable net drapery to cover the toe of the slide and exposed slopes above the excavation to protect construction workers during removal of the slide debris. Subsequent operations removed and disposed of the slide talus to allow access to the original pre-slide cut slope of the roadway. Geotechnical investigations and data collection for detailed design of the foundation for the Rockshed are currently underway and are expected to be completed over the next months.

The Sierra NF's role in the phase 2 of the project is again to approve a SUP for the project making sure that the project is implemented consistently with the Forest's Land and Resources Management Plan (as amended) (LRMP). The Sierra NF plans to adopt the analysis done in the Final EIS as allowed by 40 CFR 1506.3 (a) and (b) which states that:

- (a) An agency may adopt a Federal ...final environmental impact statement or portion thereof provide that the statement or portion thereof meets the standards for an adequate statement under these regulations;
- (b) If the actions covered by the original environmental impact statement and the proposed action are substantially the same, the agency adopting another agency's statement is not required to recirculate it except as a final statement.....

Since the Sierra NF's action is to permit the implementation of the decision already made by Caltrans in accordance with the Sierra's LRMP and since the Caltrans final EIS is compliant with NEPA as required, adoption of the final EIS allows the Sierra NF to meet its 40 CFR NEPA responsibilities. The Forest Service has its own NEPA and project level pre-decisional administrative review process regulations (36 CFR 220 and 36 CFR 218 respectively). The Caltrans final EIS complies with the Forest Service NEPA regulations however, as Caltrans does not have a requirement for a pre-decisional administrative review process, this regulation remains to be complied with.

In order to comply with the pre-decisional administrative review process the public must be notified of their opportunity to engage this review process and develop standing to object to the Forest Service draft decision. In order to meet this requirement the Sierra NF has drafted this environmental assessment (EA) summarizing the alternative selected by Caltrans and the environmental effects associated with this alternative as a method of citing and summarizing the Final EIS in a document available for public comment. If the public comments on the potential issuance of a special use permit allowing Caltrans to implement their action on National Forest Service lands, these commenters will have standing to object to the draft decision and will participate in the resolution of their objections prior to the Sierra NF making a final decision in accordance with the Forest Service's pre-decisional administrative review process.

Purpose and Need for Action_____

The purpose of the project is to reopen and restore full highway access between Mariposa and El Portal via State Route 140. Full highway access for this portion of State Route 140 means a two-lane, all-weather highway that would accommodate all types of vehicles with some restrictions on vehicle length. The route would return to its previous status as a California Legal Advisory Truck Route with a 32-foot kingpin-to-rear-axle restriction. Other length restrictions include: 45 feet for single vehicle, 60 feet for a combination vehicle, and 35 feet for a towed vehicle from hitch to rear bumper. Currently, motorists use a temporary, one-lane bypass route to avoid the portion of State Route 140 that was closed by the Ferguson rockslide. This bypass route restricts vehicles over 45 feet total length from traveling along State Route 140. It also requires that traffic stop and queue before entering the one-lane bypass route when the traffic signal indicates the way is clear. Restoration of State Route 140 would eliminate the detour and provide full access to all traffic on State Route 140 between the town of Mariposa and Yosemite National Park. Yosemite National Park and communities in Mariposa County rely heavily on this access for many types of transportation that serve tourism and residents of the area. State Route 140 is an essential link in supplying goods and services to the Mariposa, El Portal and Yosemite communities.

The purpose of this document is to allow the public 1) the opportunity to understand the Sierra NF's role in the implementation of the project through the issuance of a special use permit allowing Caltrans to complete the project on Forest Service land and 2) to achieve standing to object to the draft decision.

Proposed Action

Caltrans proposes to restore full highway access between Mariposa and Yosemite via State Route 140 in Mariposa County, California, by repairing the portion of State Route 140 that was blocked and damaged by the Ferguson rockslide.

The existing detour was constructed during a declared emergency and was designed as a temporary solution to the closure of State Route 140. Caltrans has an agreement with the U.S. Forest Service that the pavement and structures used for the detour would be removed once a permanent solution could be constructed. Removing these structures and returning the Merced River Canyon Trail/Incline Road to its pre-emergency condition are part of the proposed action. The total length of the project area is approximately 0.12 miles. This includes 0.7 miles along SR 140 for Rockshed construction, and an additional 0.5 miles along Merced River Canyon Trail/Incline Road for detour restoration.

The Forest Service proposes to approve an SUP allowing Caltrans to construct Phase 2 of the Rockshed/Tunnel Alternative (Alternative R in the FEIS) on the Sierra National Forest. The Rockshed/Tunnel Alternative allows construction of a rockshed/tunnel (cut-and-cover tunnel) through the talus (the debris deposited below the slide) of the slide along the existing State Route 140 alignment and grade. The rockshed will be 706 feet long, providing two 12 ft. wide lanes, two 8 ft. wide shoulders and a 4 ft. wide emergency egress walkway on the river side. The rockshed will be a reinforced concrete box structure, open to views of the river, supported on concrete piles and anchored with tie-backs into the west canyon wall. Retaining walls will be required on the approach ends of the structure to retain cuts that will be necessary for construction as well as to retain backfill material that will be placed on top of the structure to provide protection from future slides and rock falls.

The Rockshed/Tunnel Alternative was envisioned to be constructed in two phases. Phase 2 will be construction of the rockshed, followed by removal and restoration of areas previously disturbed during construction of the temporary bridges and detour on National Forest Service lands. Blasting and drilling activities would be used to build the rockshed. Rock material needed for restoration will likely be stockpiled at the SR 140 Caltrans Maintenance site at post mile 47. Excess rock material will be hauled off to a disposal site outside the project area. Trucks removing excess material would use the detour traffic light cycle to enter the roadway. Trucks would most likely travel on State Route 140 through the town of Mariposa to reach disposal destinations. Haul loads would be required to be within the legal amount for the route. Any damage to the state route would be addressed by Caltrans. Rockshed construction and detour restoration will require working in and adjacent to the Merced River channel. All work will be fully coordinated with other federal, state, and local jurisdictional agencies as required by law.

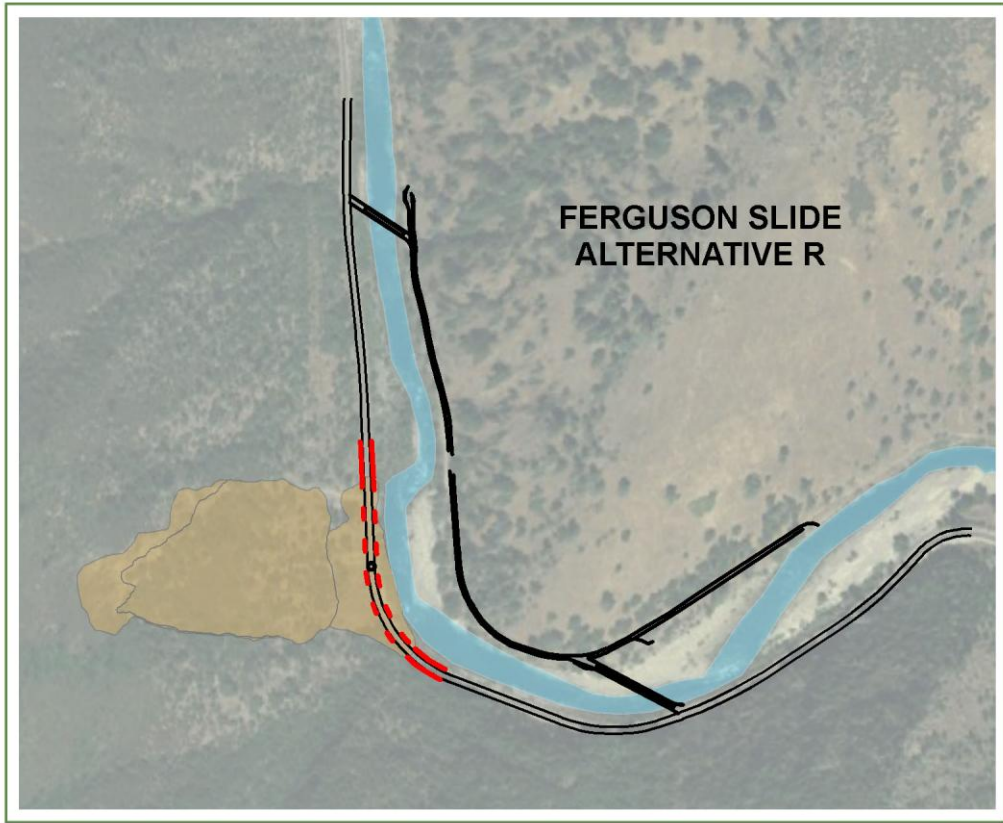
Based on a careful consideration of all the social, economic, and environmental evaluations contained in the Final EIS, the input received from other agencies, organizations, and the public, and the factors and project commitments outlined above, it is the decision of the California Department of Transportation, as the federal lead agency for this undertaking, to select Alternative R as described in the Final EIS. This alternative was identified as the preferred alternative in the Caltrans Final EIS, approved January 28, 2014. All practical measures to minimize environmental harm have been adopted and will be incorporated into this decision.

Alternative R (Rockshed/Tunnel):

- Aligns the highway through a 706-foot-long cut-and-cover rockshed/tunnel (a reinforced concrete box supported on concrete piles and tieback anchors) built through the talus (debris deposited below slide) of the rock slide.
- Uses the existing State Route 140 alignment and grade and keeps the highway on the south side of the Merced River.
- Provides for two 12-foot-wide lanes, two 8-foot-wide outside shoulders and a 4-foot-wide emergency walkway on the river's side.
- Cost: \$78.4 million in 2013 dollars.
- Calls for a mandatory design exception to accommodate constructing the rockshed/tunnel on the existing alignment, which features a roadway curvature that does not meet current standards.
- Requires construction excavation equipment be modified to operate remotely to minimize exposure of workers to rockfall/slide hazards during construction.
- Requires construction of retaining walls to block rock material from falling onto the highway on the approach ends of the structure where it cuts into the canyon wall.
- Requires transport and disposal of excess rock material to a site off of National Forest System land. Rock needed for restoration will be transported to the SR 140 Caltrans maintenance yard near Post mile 47 for temporary stockpiling.
- Includes construction of roadway culvert and drainage systems, repairing the damaged highway roadbed and pavement, and final restoration of construction areas.
- Includes removal of the temporary protective cable net drapery from the slope above the restored highway.

Detour Restoration

- Requires removal of all temporary bridges including the pilings, piers, abutments and pedestals.
- Includes restoration of abutment slopes.
- Requires removal of the beam guardrail and pavement from the Merced River Canyon Trail/Incline Road to restore the trail to its previous unpaved condition for use by recreational users.
- Includes restoration and rocking of slopes as needed.



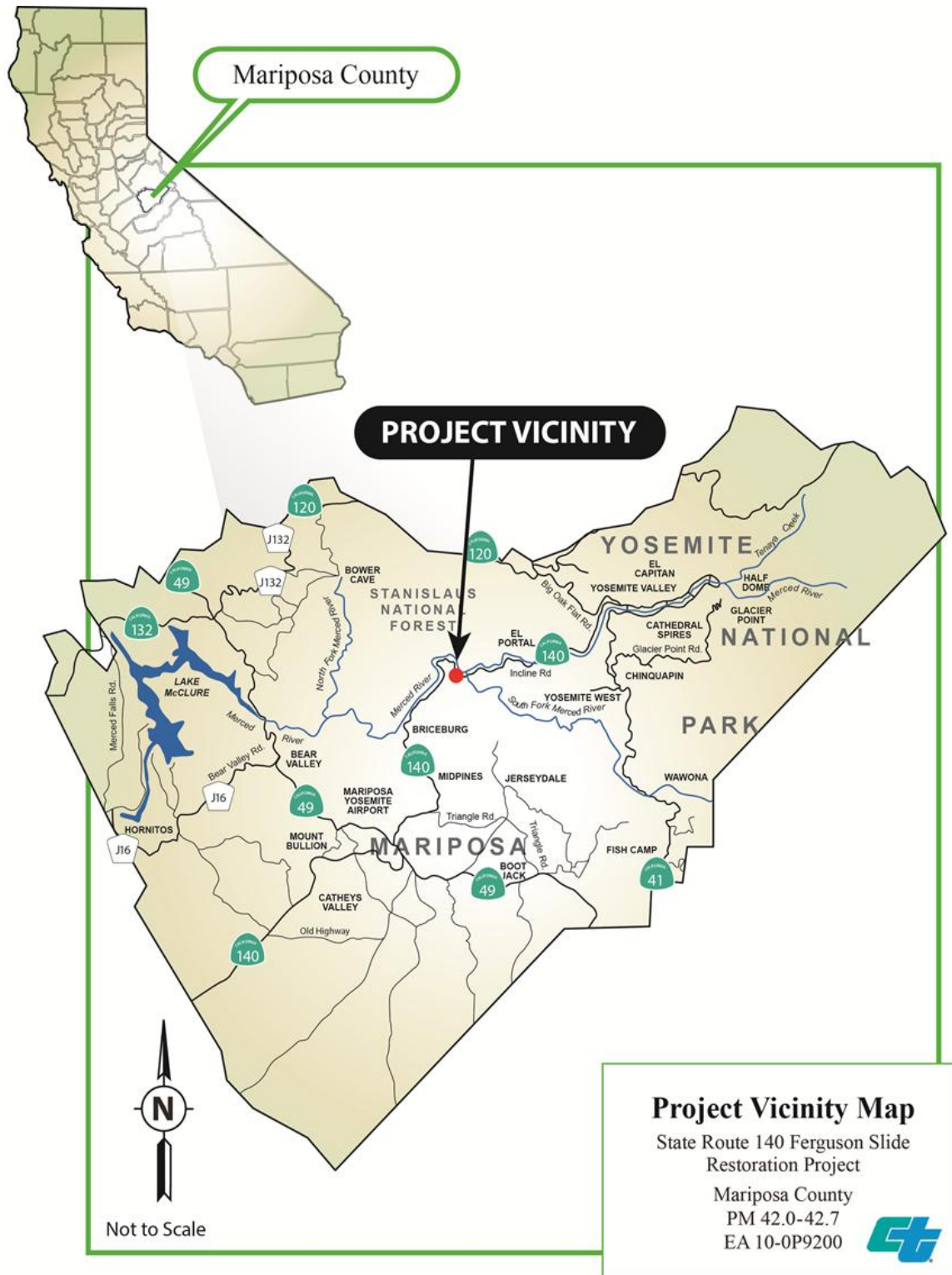


Figure 1-1 Project Vicinity Map

Public Involvement

Caltrans has previously made the EIS for the Ferguson Slide Project available to the public for comment. The Draft Environmental Impact Report/Environmental Impact Statement was circulated to the public from July 26, 2013 to September 26, 2013. Comments submitted during the public circulation period for the Draft Environmental Impact Report/Environmental Impact Statement and Caltrans responses to those comments are included in Appendix K of this document.

The Final EIS was circulated to governmental agencies, organizations and the public on January 28, 2014, and its “Notice of Availability” was published in the February 9, 2014 EPA Federal Register. The Final EIS 30-day availability period ended on March 10, 2014. No comments were received on the Final EIS.

The Sierra NF is circulating this summarized information in the form of an EA to allow the public to comment on the potential issuance of a SUP for Caltrans to implement their decision and allow commenters to have standing to object.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Alternatives

Alternative 1

No Action

Under the No Action alternative, current management plans would continue to guide management of the project area. Under this alternative, no work would be performed to address the indefinite closure of the section of State Route 140. The temporary bypass will remain a one-way detour vulnerable to future slide activity. The No-Build Alternative would leave State Route 140 damaged and blocked by the Ferguson rockslide, and it would leave temporary bridges in place to function as State Route 140. The temporary bridges could be significantly impacted during a 20-year or greater flood event. In addition, the traffic signals controlling the single-lane access through the detour would remain in operation. Full access would not be restored; therefore, the No-Build alternative would not satisfy the purpose of and need for the project.

Proposed Action

The Proposed Action was summarized previously on pages 3 & 4.

Mitigation

The Ferguson Slide Permanent Restoration Project includes minimization and mitigation, including standard construction contract specifications and best management practices to reduce the minor impacts associated with the project. This information is included in Appendix E, Minimization and/or Mitigation Summary, of the Final EIS. Where applicable, minimization and mitigation measures are found under each environmental impact heading in Chapter 3 of the FEIS. These mitigation measures are incorporated into this EA by reference.

Human Environment:

Wild and Scenic Rivers (Wildlife) – Suitable limestone salamander habitat and the presence of this species occur on the southern slope next to the existing State Route 140. Completion of the preferred alternative would directly remove 2.10 acres of limestone salamander habitat and likely cause a take of the species, resulting in short-term effect from construction. Long-term indirect effect of habitat fragmentation may also result from habitat isolation.

Measures: The preferred alternative, Alternative R, would require a 2081 Incidental Take Permit from the California Department of Fish and Wildlife. Under normal circumstances, this permit would not be issued because the limestone salamander is a fully protected species. Assembly Bill 1973 was passed in July 2012 to amend Section 5050 and add to Section 2081.9 of the California Fish and Game Code to allow a one-time-only authorization by the California Department of Fish and Wildlife to issue a 2081 permit to Caltrans for the purpose of this project. The project must begin construction on or before January 1, 2016, which is when the authorization ends.

A construction window will be established to prevent construction-related activities from occurring on the southern slope during the salamander's active season, December through March. Environmentally sensitive area fencing in the form of 5-foot orange plastic mesh as well as salamander protection fencing in the form of 24-inch sheet metal would be erected if construction-related activities must be pursued next to limestone salamander habitat and during this species' active season.

Alternative R will require off-site compensatory mitigation for impacts to the limestone salamander at an approximately 3 to 1 ratio as part of the 2081 permit.

Wild and Scenic Rivers (Cultural and Historical Landscape) – The historic and prehistoric sites within the project area along with the ethnographic features are part of the unique historic context of the Merced River Canyon. Little change has occurred to the setting of the canyon since the construction of the historic railroad and highway. The preferred alternative would not physically affect the historic or prehistoric resources in the canyon, but would introduce a structural element next to the Merced River, altering the setting of the canyon. The preferred alternative would remove the temporary bridges and pavement along Incline

Road (the former Yosemite Valley Railroad grade) after construction. The resulting effect to the outstandingly remarkable value of cultural and historical landscape would be a minimal long-term effect. Because State Route 140 is part of the historical landscape, any impacts would be reduced by the continuation of the historical function of the transportation system.

Measures: Although the bedrock mortar sites are situated away from the location of construction activities, they will be protected during construction by designating the sites as environmentally sensitive areas. Before construction, a professionally qualified staff archaeologist will oversee the placement of environmentally sensitive area fencing around each site. A Native American monitor will also be present during establishment of the fencing. During construction, the archaeologist and a Caltrans construction liaison will regularly inspect the fencing to ensure that it is intact and the protected sites are undisturbed.

Alternative R will remove the existing detour pavement and guardrail from the Yosemite Valley Railroad grade (Merced River Canyon Trail/Incline Road) and restore it to its previous condition.

Visual/Aesthetics:

For the approaching driver, the 760-foot-long rockshed/tunnel, Alternative R, along with its entrance walls would be a new element in the landscape. As the driver passes through the rockshed/tunnel, views of the outside scenery would be partially blocked. The blocking of the outside scenery and the view of an exposed rockshed/tunnel wall by approaching drivers would decrease the visual quality from moderately high to moderate.

For river users and especially rafters, the 15- to 20-foot-high rockshed/tunnel walls would be very noticeable as the river flows toward and then passes by the roadway alignment. The benefit is that there would be no bridges to block views over the river. The visual quality would be reduced to moderately low.

For trail users, views of the rockshed/tunnel wall would be very similar to that of the river user, except that certain trees or other vegetation may obscure some portions of the wall. Given the presence of the exposed rockshed/tunnel wall, the visual quality would drop from moderately high to moderately low.

Measures: With implementation of avoidance, minimization, and/or mitigation measures, the visual impacts of the preferred alternative, Alternative R, will be reduced and will not result in substantial changes in scenic quality. The measures will further avoid affecting the designation of State Route 140 as a Scenic Highway. The following measures apply to the preferred alternative and would maintain the visual quality of the area if the project were built:

- Provide a landscape architect during construction as needed to oversee tree and native vegetation preservation, structural aesthetic applications, and replanting the project area.
- Round toes and tops of slopes to create a more natural appearance.
- Create a natural appearance to any rock outcropping exposed by construction and stain it to give a weathered look.
- Roughen new slopes to create the look of age.
- Apply erosion control to all disturbed slopes except rock outcroppings and prevent runoff into the river.
- Remove existing roadway paving, barriers, and other elements associated with unused portions of State Route 140.
- Where possible, salvage, stockpile, and replace topsoil and duff containing seeds and organic matter from affected areas. Where possible exposed slopes would receive a minimum of 4 inches of topsoil.
- Replace or add plant materials in specific areas, such as the tunnel entrances and removed temporary bridge footings, to visually mitigate for structure heights and cut slopes. Planting ratios shall be a minimum of 1:1, and species mix shall be developed in consultation with the U.S. Forest Service.
- Replant using native species and create natural-appearing patterns.
- Implement a minimum three-year plant establishment period during which supplemental irrigation would be provided to new plants where horticulturally appropriate.
- Restore Merced River Canyon Trail/Incline Road to its previous condition by removing all pavement and temporary bridge abutments.
- Design all visible exterior and interior portions of the rockshed or tunnel to be visually compatible with the natural setting of the State Route 140 corridor.
- Provide texture or pattern to tunnel entrances, and/or exposed walls or visible to drivers and recreational users of the river canyon.
- Use colors on structures that blend into the surroundings.
- Use darkened metal elements or non-reflective surfaces for guardrails and posts.
- Bury culverts when possible, and add color or texture to any exposed sections to fit the landscape.

Geology/Soils/Seismic/Topography:

The natural slopes above the preferred alternative, Alternative R, could produce rockfall. Alternative R would remove approximately 80,000 cubic yards of the rockslide talus.

For Alternative R, the bedrock may be cut and excavated by using blasting equipment such as hydraulic splitters and hoe rams. The cut and fill slopes for Alternative R would not be erosive because the bedrock exposed during excavation is made of hard phyllite and chert.

Caltrans' standard practice is to design all structures for seismicity by establishing a Maximum Credible Earthquake. The maximum credible earthquake is established by using correlations between fault lengths, displacement, and area and earthquake magnitudes. Earthquake acceleration for a particular site is also analyzed by comparing three parameters: the maximum credible earthquake, the peak historical acceleration, and the distance from the site to the fault. The Silver Lake fault would produce the highest earthquake acceleration at the project area, and that acceleration is not considered very strong. Alternatives R may be built within or next to topographic features adjacent to the Ferguson rockslide that may be dormant rockslides. Groundwater could be encountered during the blasting and drilling of the rockshed for Alternatives R.

Measures: With use of the blasting equipment mentioned above, the rock material being excavated will be controlled to prevent the spread of rock material, limit ground vibrations, and limit noise.

The entrances for Alternatives R will be built at least 150 feet away (in both directions) from the flanks of the rockslide. Placing the entrances at these locations would provide adequate distance for more rockfall debris to accumulate without spilling onto the highway and blocking the rockshed. When the entrances are built, the slopes would be cut at a 1:4 ratio. A catchment area at-grade, rockfall barriers, or a combination of the two will be required for the preferred alternative to protect the roadway from the possibility of falling rock.

Biological Resources:

Threatened and endangered Species

Merced Clarkia - Alternatives R will cut into the slope on the south side of the river where unconfirmed observations of Merced clarkia have been made. Although no confirmed sightings were made, the project area is considered potential habitat. Alternatives R will affect 2.10 acres of habitat.

Limestone Salamander - Alternatives R will remove 2.10 acres of limestone salamander habitat and may result in a take of the salamanders as defined in the California Endangered Species Act. Take could result from changes in above- and below-ground hydrology and blasting and excavating activities.

Measures:

Merced Clarkia – Although this plant was not observed during surveys, pre-construction surveys will be done in the appropriate bloom period within the year before construction to provide updated data. If the Merced clarkia is observed, environmentally sensitive area fencing will be placed around the population to protect it to the maximum extent possible. The California Department of Fish and Wildlife will be notified if the plant is observed. If the plants cannot be completely avoided, Caltrans will request a Section 2081 Incidental Take Permit.

Limestone Salamander - A construction work window will be established during initial ground disturbance activities to prevent construction-related activities from occurring on the southern slope during the salamander's active season, which is defined as December through March. Environmentally sensitive area fencing in the form of 5-foot orange plastic mesh as well as salamander exclusion (protection) fencing in the form of 24-inch sheet metal would be erected if construction-related activities were to occur next to limestone salamander habitat and during their active season.

Alternatives R will require a 2081 Incidental Take Permit from the California Department of Fish and Wildlife. Under normal circumstances, the California Department of Fish and Wildlife would not have the ability to issue a 2081 Incidental Take Permit for impacts to a fully protected species. However, Assembly Bill (AB) 1973 amended Section 5050 and Section 2081.9 of California Fish and Game Code to allow a one-time only authorization by the California Department of Fish and Wildlife to issue a 2081 Incidental Take Permit to Caltrans for the purposes of this project. AB 1973 was passed by the Assembly and Senate, and signed by the Governor on July 12, 2012.

Alternatives R will require off-site compensatory mitigation at approximately a 3 to 1 ratio as part of the 2081 Incidental Take Permit. Caltrans will purchase property that will have specific habitat elements indicative of limestone salamander presence. The parcel will likely be near the existing Limestone Salamander Ecological Reserve that is currently owned and managed by the California Department of Fish and Wildlife. Ownership and management could go to the California Department of Fish and Wildlife or to a non-profit land management organization such as the Sierra Foothill Conservancy. An endowment will also be required to cover the initial costs of management as well as long-term and recurring costs, and will accompany the property to be managed according to requirements in the 2081 Incidental Take Permit. The details of the plan will be proposed to California Department of Fish and Wildlife for review and approval in the 2081 Incidental Take Permit application.

An Environmental Commitment Record (ECR) has been prepared for the selected alternative in accordance with 23 CFR 635.309(j). The ECR identifies responsible parties and provides guidance for implementation and reporting for all mitigation measures described in Chapter 3 of the Final EIS. The ECR is summarized and located in Appendix E of the Final EIS.

Caltrans will be responsible for implementing and reporting the status of the mitigation measures in the ECR. Caltrans will also be responsible for construction management and

oversight, and assuring that mitigation measures are fully implemented by designated and qualified personnel, which may include specialty contractors.

All mitigation monitoring report forms will be completed by those responsible for implementation, and verified by those responsible for monitoring and approval. Duplicate copies of certified forms will also be retained in the District 6 project file for this undertaking.

Wild and Scenic Rivers Section 7(a) Determination Mitigation Measures

Post decision the Forest Service was required to perform a Wild and Scenic Rivers Section 7 (a) determination to determine the effects to river values. This determination resulted in additional mitigation measures required to be applied to the project to result in no significant impact to the wild and scenic river values associated with the Merced River. These additional mitigation measures will be included in the SUP permit and are part of the Forest Service's decision.

Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction:

Permits and Approvals Needed

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Section 404 Nationwide Permit 14 for filling or dredging waters of the United States	Submittal before construction
U.S. Forest Service	Biological Evaluation	Submittal before the final environmental document (no additional NEPA analysis required for this action)
U.S. Forest Service	Section 7(a) Wild and Scenic Rivers Act Evaluation	A full evaluation and determination of the effects to river values in accordance with Section 7(a) of the Wild and Scenic Rivers Act will be finalized in advance of the issuance of the Section 404 permit.
U.S. Forest Service	Letter of Consent for the issuance of a Department of Transportation easement	Before construction, will require additional NEPA analysis by the U.S. Forest Service
U.S. Forest Service	Special Use permit: The existing State Route 140 operates on Forest Service land pursuant to a Special Use Permit with the U.S. Forest Service.	Submittal before construction
California Department of Fish and Wildlife	1602 Streambed Alteration Agreement	Submittal before construction
California Department of Fish and Wildlife	Section 2081 Permit for the potential take of (impacts to) Merced clarkia and/or limestone salamander during construction	Submittal before construction

California Regional Water Quality Control Board	Section 401 Certification for a Water Discharge Permit	Submittal before construction
California Regional Water Quality Control Board	National Pollution Discharge Elimination System Compliance	Submittal before construction
State Historic Preservation Officer	Determinations of Eligibility and Effects for Cultural Resources	Concurrence letters received October 10, 2007 and July 15, 2013. See FEIS Appendix D.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table [X]. [Title of Chart].

Potential Impact	Alternative R	No-Build Alternative
Reopen and Restore Full Access for Traffic	Yes	Short-term Yes, Long-term No – detour bridges would eventually fail, requiring closure of the highway at the damaged section.
Consistent with Mariposa County General Plan	Yes	Short-term Yes, Long-term No – detour bridges would eventually fail, requiring closure of the highway at the damaged section.
Wild and Scenic Rivers	Would not affect the free flow of the Merced River, but could have short-term impacts to water quality. Short-term impacts to the <i>outstandingly remarkable values</i> of Recreation, Geology, Wildlife and Botany. Would have direct, but not adverse, effects to the Cultural/Historic Landscape.	Temporary bridges impede free flow of the river and have impacts to water quality Short-term impacts to the <i>outstandingly remarkable value</i> of Geology Direct and adverse effects to Recreation and Cultural/Historic Landscape.
Parks and Recreation	Would restore full access to Yosemite and other recreational activities within Mariposa County via State Route 140. Incline Road would be restored as a recreational trail.	The eventual failure of the bridges would close the highway at the rockslide. Temporarily eliminates Incline Road as a recreational trail. Does not provide full access to Yosemite and other recreational activities via State Route 140.
Community Character and Cohesion	Would restore full access between the communities along State Route 140.	Access between the communities would eventually be eliminated when temporary detour bridges fail.
Utilities/Emergency Services	Would restore full access for emergency vehicles. No utility relocations required.	Access for emergency vehicles would be eliminated when the detour bridges eventually fail.

Potential Impact	Alternative R	No-Build Alternative
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Incline Road would be restored to accommodate bicycles and pedestrians. The new roadway would accommodate all vehicle types and would include shoulders within the structures to accommodate bicycles.	Temporarily restricts access for pedestrians and bicycles between communities. Would eliminate all through traffic when the detour bridges eventually fail.
Visual/Aesthetics	Structures would produce an average reduction in visual quality to moderately low.	Structures create a short-term visual quality of moderately high. Upon removal of temporary structures, the landscape would be restored to its naturally high visual quality.
Cultural Resources	No adverse effects.	Short-term altering of the already-compromised Yosemite Valley Railroad Grade (Incline Road). Upon the removal of the detour, the railroad grade would be returned to its previous state.
Hydrology and Floodplain	Would encroach longitudinally on the floodplain.	Footings and abutments currently encroach on the floodplain. Structures would be affected by a 20-year flood.
Water Quality and Storm Water Runoff	Removal of the temporary bridges would cause short-term impacts to surface water.	Storm water runoff and bridge maintenance activities could create short-term impacts to surface water. Eventual removal of the temporary bridges would cause short-term impacts to surface water.
Geology/Soils/Seismic/ Topography	Would remove the talus of the rockslide, requiring the disposal and transport of an estimated 80,000 cubic yards of rock material with a potential disposal cost of \$4.4 million.	None
Hazardous Waste/Materials	Potential exposure to elevated levels of arsenic from Incline Road during removal of detour.	Potential exposure to elevated levels of arsenic from Incline Road.
Air Quality	Potential for short-term impacts during construction.	Short-term impacts until temporary bridges are removed from signalized one-way detour
Natural Communities	2.10 acres of oak woodland would be removed.	None
Wetlands and other Waters	None	None
Plant Species	2.1 acres of Mariposa clarkia and Tompkins sedge habitat would be removed. 1.05 acres of smallflower monkeyflower habitat would be removed.	None

Potential Impact	Alternative R	No-Build Alternative
Animal Species	More than 2 acres of bat habitat would be affected, 1.05 acres west of the rockslide and 1.05 acres east of the rockslide.	None
Threatened and Endangered Species	Ground disturbance would affect habitat of the ringtail. Would cut into the slope on the south side of the river, potential habitat for Merced clarkia and limestone salamander, affecting 2.1 acres of these habitats.	None
Invasive Species	Disturbance of ground would cause dispersal of non-native weeds.	None
Use of 4(f) Property	No	Temporary
Cost	\$78.4 million	\$0
Length of Construction	3 years	N/A

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ENVIRONMENTAL CONSEQUENCES

The project would not adversely affect the activities, features, or attributes of the Merced River and because of the avoidance and minimization measures listed in Section 3.1.1.3 of the Final EIS, Caltrans requested that the Forest Service concur with a Section 4(f) de minimis finding for the build alternatives. Following public circulation of the draft environmental document, Caltrans summarized the results of the public review process with regard to Section 4(f) impacts in a letter prepared to the Forest Service on November 19, 2013. The Forest Service provided concurrence with the de minimis finding for the Merced River on November 22, 2013. Copies of the correspondence with the Forest Service regarding the de minimis Section 4(f) findings can be found at the end of Appendix B of the Final EIS.

The Sierra NF LRMP was developed to direct the management of the Sierra NF. This plan provides goals for the transportation and facility resource and requires a broad range of developed and dispersed recreation opportunities that balance with existing and future demand. Three levels of direction make up the Sierra National Forest Land and Resource Management Plan. The first level is the Forest Goals and Objectives, which provide broad and overall direction for the type and amount of goods and services the forest will provide in the future. The second level is a discussion of future conditions of the forest. The third level is general Management Prescriptions and Management Standards and Guidelines.

The Sierra National Forest Land and Resource Management Plan states that river segments totaling 82.5 miles will be managed as part of the National Wild and Scenic River System. Facility construction will be implemented within Scenic/Recreational river segment designations commensurate with existing uses and conditions.

The Sierra National Forest Land and Resource Management Plan emphasizes preservation of the free-flowing condition of selected rivers having various outstanding remarkable features and notable values for inclusion in the National Wild and Scenic River System. The plan calls for the management of recommended segments in accordance with the Wild and Scenic Rivers Act of 1968. Recreational segments allow recreational development along the river to provide opportunity to engage in activities enhanced by the river. Recreational designations do not preclude consideration of dams and/or diversions in certain situations.

The management and resource guidance in the Sierra National Forest Land and Resource Management Plan relates to the Merced Wild and Scenic River by prescribing management of designated river corridors according to classification and direction established in the Wild and Scenic River management plans. The administering of permits to whitewater raft on the Merced River would be coordinated with other agencies.

The South Fork and Merced Wild and Scenic River Implementation Plan provides for management guidance per the Wild and Scenic Rivers Act. This plan incorporates the overall standards, recreation river zone objectives, and management guidelines.

Some of the overall standards are the following:

- Cultural Resources—Maintain in a condition that will permit an evaluation of significance.
- Fisheries—Meet all Riparian Standards and Guidelines.
- Transportation System—Maintain trails and roads at designated levels.
- Wildlife—Maintain or improve habitat.

Management guidelines include the following:

- Restrain from developing on slopes more than 25 percent.
- Set back structures so as not to infringe upon the skyline as viewed from the river's edge.
- Maintain the existing vegetation species diversity at current levels within the river corridor.
- Limit overhead crossing of any type across the river corridor.
- Require all structures that will be in view of the river to meet the motif or color guidelines of the agency involved.
- Encourage a minimum of a 100-foot setback for all newly constructed improvement and structures from the river's edge.
- Require visual screening. Use native vegetation materials to make the facilities subordinate with the existing landscape.

CONSULTATION AND COORDINATION

Caltrans began coordinating with public agencies on the preparation of the Draft Environmental Impact Statement/Environmental Impact Report in February 2008 following the release of the Notice of Intent, which was published in the Federal Register on January 24, 2008. A Notice of Preparation was also circulated to public agencies on January 28, 2008.

During February 2008, letters of invitation were issued to public agencies that were either interested in the proposed project or would have a permitting responsibility on the project. The following agencies received invitations to be cooperating and participating agencies:

- U.S. National Park Service Yosemite—formally accepted cooperating and participating agency status, is actively involved in project interagency meetings.
- Bureau of Land Management—formally accepted cooperating and participating agency status based on its responsibilities of managing and permitting river rafting activities, is actively involved in project interagency meetings.
- U.S. Forest Service—formally accepted cooperating and participating agency status based on its Section 7(a) of the Wild and Scenic Rivers Act role as a river managing agency, is actively involved in project agency meetings.
- U.S. Army Corps of Engineers—formally accepted cooperating and participating agency status based on its Clean Water Act Section 404 permitting responsibility, is actively involved in project agency meetings.
- California Department of Fish and Wildlife—declined cooperating and participating agency status, but will be actively involved in project agency meetings based on its Section 1602 of the California Fish and Game Code permitting responsibility.

In February 2009, letters of invitation were issued to additional public agencies that were either interested in the proposed project or would have a permitting responsibility on the project. The following agencies received invitations to be participating agencies:

- U.S. Environmental Protection Agency—formally accepted participating agency status and has provided comments on the environmental document.
- California Regional Water Quality Control Board—formally accepted participating agency status based on its Clean Water Act Section 401 permitting responsibility.
- California Environmental Protection Agency—was given the opportunity to provide comments on the environmental document.
- Mariposa County Board of Supervisors—formally accepted participating agency status based on its role as a local governing body, is actively involved in project development meetings, and has provided comments on the environmental document.

Interagency meetings were held with specific public agencies for their involvement in the development of: the purpose and need, a reasonable range of alternatives, and the

methodology for analyzing impacts to the Merced River. Regular coordination also occurred with the public agencies. Descriptions of the meetings and coordination are described below. See Table 2.2 for a status of the permits and approvals. Representatives from the following agencies were present at each of the interagency meetings:

- U.S. Forest Service
- Bureau of Land Management
- U.S National Park Service Yosemite
- U.S. Army Corps of Engineers
- California Department of Fish and Wildlife
- Mariposa County Board of Supervisors